

tail he introduces a stake sharpened at one end in the form of a crowbar, and levers the lizard out by pressure from beneath.

After killing the lizard as related before, in order that he may clear the internals, the Indian tears open the body on the underside, near one of its armpits, making an opening large enough to allow him to extract the stomach, liver, heart, and entrails, &c. This done, they place them with their backs downward one above the other in a vessel, and pouring in enough water to cover them properly, they boil them well, and then clean the scales and spines off, but do not take off the skin. It is then cut into pieces including the tail, but the four paws and head are rejected. The tail is considered a delicacy. The pieces are then washed and cooked with some clarified butter (ghi) and curry massalas along with any fat that the lizard may have had in it. After this has cooked for sometime, and when nearing completion, some milk made from flour and water is poured in into the vessel and the whole cooked till the grease separates. The wheat flour milk makes a rich gravy in combination with the fat of the lizard.

The fat found in the body of the lizard is also taken out, and boiled down in a vessel over a fire. The liquid obtained thus is of a bright yellow colour, and does not freeze in an Indian winter. It is used medicinally and fetches a high price with Indian Hakeems who use it as a cure for impotence. It is administrated by rubbing on the stomach, spine and thighs or eaten with bread and sugar. It is said to taste nice. On account of its heating properties it is reported to be very effective in Rheumatism, Gout and other similar pains and aches.

As an instance of the antiquity of the practice of lizard eating, it may be noted that Firdousi mentions it in his *Shahnama* over 900 years ago. He says:—"The Arabs by drinking the milk of she-camel and eating lizards have made such progress that they now aspire to the throne of Persia."

E. HOME PURVES.

MONTGOMERY, 5th December 1914.

[We are indebted to Mr. V T. Janson for the excellent photograph of this lizard reproduced in the above note. The lizards were sent down alive by Mr. Home Purves and have been living in the Museum for some months. They are extraordinarily tame and placid and permit themselves to be handled without any objection or attempting to bite. If placed on their backs they will lie sometimes for some minutes with their legs in the air without endeavouring to move.—EDS.]

No. XVII.—NOTES ON SOME SNAKES FROM SIAM.

I have recently sent specimens of the following snakes to the Society's Museum, and the accompanying notes upon them may be interesting.

Trirhinopolis nuchalis.—The only previous record of this snake is, I believe, one specimen in the British Museum, from Toungyi, Southern Shan States. There are also two specimens in the B. N. H. S. Museum from Mansi, U. Burma. They were identified by Lt.-Col. Wall but have not, as far as I know, been recorded.

I have recently procured two more specimens. They were caught in the province of Ratchaburi, some two miles east of the Tenasserim border, in tall evergreen jungle, at an attitude of 770 metres. In lepidosis they agree in every way with Mr. Boulenger's description. (*Cat. of Snakes*, Vol. 1, page 419.)

The details of my two are as follows.—No. 1. (sex undetermined, owing to damage). Total length, 458 mm. tail 53. Costals 15 throughout, the median scales faintly keeled on the posterior part of the body. Ventrals 141. Subcaudals 24.

Colour (in spirits). Above light purplish-brown, most of the scales edged with black so arranged across the back as to present a series of fairly well-defined circular or oval rings. Below whitish, freely speckled with black, and with large, black, rectangular spots, placed laterally. A black arrow-headed mark upon the nape, beginning at the frontal shield, and a pale chevron behind it. Most of the head scales edged with black. Chin and throat white.

No. 2. ♂. Total length 458 mm, tail 47. Dorsal keels more strongly marked than in No. 1. Ventrals 132. Subcaudals 24.

Colour. Light pinkish-brown above, the black edging to the scales forming posteriorly fairly well-defined cross-bars. Belly only sparsely sprinkled with black. The rectangular spots become crescentic in shape in the posterior half.

Dendralaphis subocularis.—Previously recorded from Bhamo, in Upper Burma (the types), and from Eastern Siam, one specimen, collected by the Pavie Mission to Indo-China. I have had 4 more specimens from widely separated parts of this country, namely, Den Chai (near Phrae), Sriracha Koh Lam (a small island near), and Bangtaphan. Only the first named locality is of any altitude, the other three places being on the sea.

The total length of my largest was 600 mm. the tail forming 170 mm. Costals 15-15-11 (counted by Lt.-Col. Wall's method). Ventrals 168-158-165-165. Subcaudals 76-95-90-94. Temporals 2+2; supralabials, 8 in two specimens, the 5th entering the eye, 7 in the other two specimens, the 4th entering the eye.

Colour (in life). Above, bronze-brown, becoming greenish-brown upon the tail, the colour ending abruptly $1\frac{1}{2}$ costal scales above the ventrals. Belly pearly-white; beneath the tail, pale metallic citrine. A dark band passes along the outer margin of the belly, occupying the lower half of the last row of costal scales and the adjacent part of the ventrals. It is almost jet black in one specimen, very indistinct in the other three. Another black band passes through the eye on to the neck where it breaks up into short cross-bars and disappears. Lips white. Interstitial skin anteriorly pale blue. In three of the specimens, the vertebral scales upon the neck are yellow.

Dryophis prasinus var. *flavescens*.—Mr Bowden Kloss of the Federated States Museums informs me that he took the first specimen of this colour variety at Trang, in the Siamese portion of the Malay Peninsular. I have recently procured two more from localities near Bangkok.

The first specimen, an adult, was of a bright chrome yellow above (still brighter, I am informed in life) in the anterior two-thirds of its body, turning to a pale fawn posteriorly. Below yellowish-white. No flank line. Chin pure white. The interstitial skin was alternately black and white, as is usual with this species.

The second specimen, a half grown one, which I kept alive for some time, had the yellow colouring faintly tinged with green in the fore part of the body and with brown in the hinder part. Belly pale yellow anteriorly, yellowish brown posteriorly. Tongue and iris yellow. A minute black dot at the margin of each ventral shield in the anterior two-thirds of the body. Interstitial skin, alternately black and yellow, except across the vertebral region, where the yellow became white.

Another specimen of this snake, caught in the same locality as No. 2, was of a dirty cream colour throughout, with tongue and iris to match. The interstitial skin however retained its usual black and white pattern, and this fact, I think, would entitle it to rank as a colour variety, and not as a case of albinism.

I may add that from the localities where the above specimens were caught, both the green and the grey forms of this snake are to be found.

Callophis maculiceps.—A new colour variety. This snake although not common in Siam, appears to be widely distributed about the country. Of the 9 specimens which I have examined two have been so distinct in their markings that they are entitled to rank as a new colour variety, which is as follows:—Above, light yellowish-brown, without the usual series of small dorsal dots, but with a conspicuous black vertebral line running the whole length of the body and tail. The usual tail bands are present. Head and neck black, with a pale yellowish line along each upper lip, interrupted below the eye. Belly coral pink. Tail below, more or less thickly spotted with black.

This variety is similar to the var. *univirgatus* of *Callophis maclellandi*, and the same title would be suitable for it.

Of the remaining seven specimens, six have the usual series of small black dots down the back and do not differ from the recognized description, except that they have in addition a very faint, dark, vertebral line.

The other one is intermediate between the two forms, and has both the dots and the vertebral line well marked.

Mr. Boulenger in the *Catalogue of Snakes in the British Museum* and in the *Fauna of the Malay Peninsula*, gives the number of ventral shields in this species as varying from 205-247. None of my specimens showed so many. They ranged from 173-198.

Lt.-Col. Wall in his supplementary characters of identification (*Poison. Terr. Sn. Brit. Ind.*) says: Anterior sublinguals touch 4 infralabials. This only occurred in one of my specimens and on one side in another. In all the others 5 were in contact.

Hydrophis klossi.—Previously known from a single specimen taken at the mouth of the Selangor River, Federated Malay States. During the last fifteen months, I have received 7 more specimens, six of them from the mouth of the Tacheen River, at the top of the Gulf of Siam, and one from the river Menam, above Bangkok. The latter was found no less than 50 kilometres from the sea, and almost beyond the limit of brackish water. It was caught in the month of May, when the river would be at its lowest level, and the salt water therefore extending furthest inland.

My specimens did not entirely agree with the type description (*Fauna of the Malay Peninsula, Reptilia and Batrachia*, p. 190) and Mr. Boulenger, in reply to those which I sent to the British Museum, wrote "I have compared your *Hydrophis* with the type of *H. klossi*, and although there are differences, I think they must be referred to the same species."

Details of my seven are as follows:—Total length of the longest, a ♂, 1090 mm., tail 115. The greatest thickness of the body is in its third quarter. Rostral shield variable as regards height and breadth, portion visible above equal to $\frac{1}{2}$ to $\frac{2}{3}$ the internasal suture. Frontal as long as broad or longer than broad, never as small as in the type specimen, not as

small as the supraoculars. One præ—and one postocular. A single large anterior temporal. Supralabials 5 (in one a small 6th might be counted by some), 3rd and 4th entering the eye, 2nd largest and in contact with the præfrontal. Sublinguals, posterior pair present in six specimens, absent in one, when present separated by a scale. Marginals present on one side in one specimen, after the 3rd and 4th infralabials. Costals anteriorly 23-27, at the greatest diameter of the body 33-38, imbricate, smooth or keeled anteriorly, with a short or complete keel posteriorly. Ventrals small but distinct, less than half the breadth of two adjacent costals, seldom divided up, 361-395.

Colour (in life). Pale grey above, merging into yellowish below, and with dark grey annuli, as broad above as below in the fore-part of the body, twice as broad above as below in the hinder part.

Two of my specimens caught in December and January respectively contained 2 eggs each, without any trace of embryo.

Enhydris hardwickii.—In the last number of the Journal there is an article upon the Sea-snakes in the Society's Museum. No mention is made of *Enhydris hardwickii*, and I presume, therefore, that the Museum has no specimens. I send four, two ♂ and two ♀.

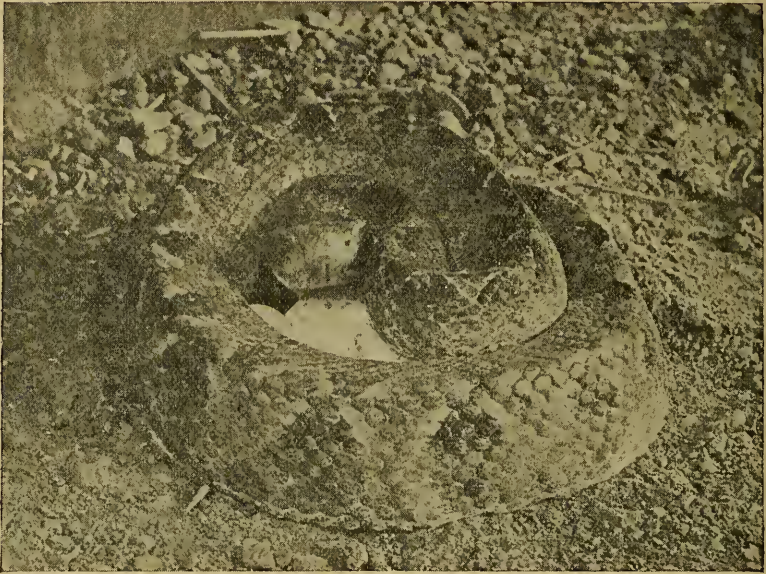
This species is exceedingly common at the head of the Gulf of Siam, infinitely more common than *Enhydrina valakadien*, judging by the number of specimens I receive. They are caught in the nets at the fishing stakes some two miles from the mouth of the Tacheen river, and during the fishing season, which extends from October to March, I can rely upon getting 20 or 30 specimens any day I care to ask for them. They are sent up to me alive and will live for a time in fresh water, but their ceaseless efforts to escape tire them out and in about two weeks they die.

The difference in the sexes in this species is well marked, the males being characterized by the stronger keels upon the scales of the back and sides and by the pronounced tubercles upon the belly. In some old males these latter are very well marked and become veritable spines of considerable length. Another point of difference which so far seems to have escaped observation is the number of scales round the body, which is less in the ♂ than in the ♀. In the former it varies from 23-27 in the anterior part of the body to 26-31 in mid-body, in the latter 29-36 in the anterior part of the body to 33-42 in mid-body. The ventrals are very small and frequently absent altogether so that it is difficult to form a true count. There are, however, less in the ♂ than in the ♀.

Ancistrodon rhodostoma.—This viper has been recently shown to be widely distributed throughout Siam, and in certain places to be fairly common. It has been found as far North as Muang Fang, near the Southern Sian States, and may therefore ultimately be found to enter into the fauna of Burma.

Of the Asian Crotalinæ, only one, I believe, namely *Lachesis monticola* is so far known to be oviparous (*vide* Journal of this Society, Vol XV., p. 729). The accompanying photograph, therefore, is interesting, as showing that *Ancistrodon rhodostoma* has also this habit.

The event took place in captivity, but the period of incubation is unknown. The mother had been caught ten months before, and had shared her cage with two others for nine months. It is therefore probable although intercourse was never witnessed that it took place in captivity, although I should state also, that as her two companions are still alive, their sex is not yet definitely known.



The eggs 13 in number, were deposited on the night of September 1st, and the mother was found in the morning to have assumed guard over them in the attitude shown in the photograph, nor did she, as far as I am aware, ever leave them to take anything during the whole period of incubation. I have never seen these snakes drink anything, so that the want of water would be no great privation on her part. In her own sluggish way, she strongly resented any interference with her progeny, and for fear of causing her to desert her eggs, and so bring this interesting occurrence to a premature end, I did not attempt to examine them in detail.

On October 11th, she was dislodged from her post by a falling branch, and did not attempt to regain it, but lay beside her eggs. On the following day she left them entirely to eat a mouse and the same night cast her skin, returning afterwards to her original spot. Whether or no this was in order to continue her guard, I cannot say, as these snakes have the habit of selecting a corner in their cage, to which they usually return time after time, unless disturbed in any way. Six days later, that is 47 days after deposition of the eggs, the first young one appeared and four more followed within 48 hours. Of the remainder, three were shrivelled and dead, and the others did not seem to have sufficient strength to break their envelope. The mother took no notice of them. The young as soon as they emerged were extremely lively, "rattling" their tails with great vigour, and striking out viciously if interfered with. In length they varied from 148-162 mm., and in colouration did not differ in any way from the adults. I could find no trace of a foetal tooth.

The eggs had the usual soft, white, parchment-like covering and were bound very firmly to each other by some glutinous substance. Those I measured were about 22 mm. broad by 30 long.

One other record of the breeding habits of this viper was told me by a European working in a locality where they are fairly common. He killed a

large one in the month of July and about "30 eggs came out when he cut her open." This is no doubt an overestimate of the number, but the head which he sent me in confirmation of his story is considerably larger than the head of my female which laid 13 eggs.*

With regard to the poison of this snake, it is not considered by the country people, in those localities where it is well known, as being fatal to human life, and the observations and experiments which I have been making during the past year with specimens in captivity fully bear out this statement.

MALCOLM SMITH, M.R.C.S., L.R.C.P.

BANGKOK, *January 1st*, 1915.

No. XVIII.—BULL FROG AND RAT-SNAKE.

A large bull-frog (*Rana tigrina*) captured in the act of swallowing a young rat-snake (*Zaocys mucosus*) has recently been presented to the Madras Museum from Kayenkulam in Travancore. The frog has succeeded in swallowing nearly three-quarters of the snake which has a total length of $34\frac{1}{2}$ inches. There appears to be no reason to doubt the statement of the donor who captured the two animals in the exact condition in which they now exist.

B. SUNDARA RAJ,

Zoological Assistant, Madras Museum.

MADRAS, *January 1915*.

No. XIX.—"FISHING WITHOUT A FISH HOOK."

Several of the small mountain torrents and large rivers in Sikkim are full of fish at certain seasons of the year, generally in March, April, May, September and October; and during these months, specially during March, April and May, and late in February, when the water is clear, one often sees the young Paharia and the Lepcha, too, catching fish and getting a fair bag in a very primitive way; no hook is used, only horse hair slip knots or nooses one on either side of the bait which always consists of a couple of grubs tied star wise in the centre. These grubs or worms are got from underneath the bark of the silk cotton tree, the "Simal", and are evidently the young of some borer who is partial to the *Bombax*. These soft grubs have black heads, and yellow and white bodies; and when adroitly tied form a very attractive looking bait ravenously eaten by a certain class of fish, the Snow Carp for instance, also a large fish weighing sometimes up to 8 lbs. called in Paharia "Asla". The Carp is generally got in small mountain torrents, and the "Asla" in bigger rivers, like the Teesta in Sikkim and the Amachu in Bhutan, or Torsa in the Dooars. Last year while camping on the Amachu in Bhutan, in February, I saw two Paharias, fishing with jointed bamboo rods, cotton lines, and horse hair nooses; the rods had three joints, the lines were ordinary sowing cotton four ply neatly twisted and fairly strong. At the end of the line was a foot of horse hair with two circular nooses, the bait being in the centre of the two. Six inches below the bait were several strands of horse hair, all the hair being white, and to one strand was fastened a small smooth pebble picked up in the stream. While casting the line, this pebble often came off as it was not a permanent

* This female has since died. She measured exactly 800 mm. in total length.